

Please replace the third full paragraph starting at page 5, line 15 with the following amended paragraph:

In an article entitled Improving fibrolytic enzymes for beef and dairy, David Hutcheson PhD, Animal Agricultural Consulting, Inc., PO Box 50367 Amarillo, TX 79159 discloses, "Fibrolytic enzymes can increase dry matter digestability, neutral detergent fibre digestion, organic matter, cellulose and hemicellulose digestion and increase ruminal rates of microbial protein production".

Please replace the first full paragraph, starting at line 15 of page 7 with the following amended paragraph:

The present inventors market a product containing ~~laetobacillus~~ Lactobacillus and an enzyme system. The composition was a trade secret. The ratio of digestive enzyme units to colony forming units is estimated to be 6.8 digestive enzyme units to 10.sup.7 colony forming units based upon the input ingredients. The amount of enzyme per feeding was 2.7.times.10.sup.3 digestive units per oz. (28.3 g).

Please replace paragraph the third full paragraph, starting at line 22 of page 8 and ending at line 3 on page 9 with the following amended paragraph:

The present invention is a cattle feed additive containing fibrolytic enzymes having enzyme activity and one or more species of ~~laetobacillus~~ Lactobacillus bacteria having colony forming units wherein the ratio of enzyme activity to colony forming units has a value of at least about 1 unit of digestive enzyme activity to every 10.sup.5 colony forming units. Preferably the cattle fed additive has a ratio of enzyme activity to colony forming units has a value of at least 2 units of enzyme activity to every 10.sup.6 colony forming units. Preferably the ~~laetobacillus~~ Lactobacillus bacteria are selected from the group comprising ~~Lactobacillus Acidophilus~~ Lactobacillus acidophilus, ~~Lactobacillus Plantarum~~ Lactobacillus plantarum, and ~~Lactobacillus Brevis~~ Lactobacillus brevis, and mixtures thereof. Preferably the fibrolytic

enzymes are selected from the group comprising cellulases, xylanase, hemi-cellulase and mixtures thereof.

Please replace the first full paragraph, starting at line 5 of page 9 with the following amended paragraph:

The composition of the present invention can be free of surfactants and any other ingredients disclosed in the prior art to enhance the performance of enzymes and/or ~~laetobacillus~~ Lactobacillus bacteria.

Please replace the second full paragraph, starting at line 8 of page 9 with the following amended paragraph:

The method of making cattle feed of the present invention is characterized by replacing previously used bypass protein in the animal feed with a sufficient amount of a mixture of one or more specie of ~~laetobacillus~~ Lactobacillus bacteria and one or more types of fibrolytic enzymes, to produce at least enough microbial protein to be at least equivalent to one half pound (0.23 kg) of animal protein fed to each of the cattle per day, assuming that each of the cattle are mature and of an average weight for cattle. The preferred ~~laetobacillus~~ Lactobacillus bacteria are selected from the group consisting of ~~Lactobacillus Acidophilus~~ Lactobacillus acidophilus, ~~Lactobacillus Plantarum~~ Lactobacillus plantarum, and ~~Lactobacillus Brevis~~ Lactobacillus brevis, and mixtures thereof, and the protein byproducts replaced are selected from the group consisting of nerve, brain, blood, bone and meat containing byproducts. The preferred ~~laetobacillus~~ Lactobacillus bacteria are a mixture of Lactobacillus Acidophilus, Lactobacillus Plantarum, and Lactobacillus Brevis. The one or more digesting enzymes are preferably selected, from the group consisting of xylanase, and cellulases derived from Trichoderma viride, Aspergillus oryzae, Aspergillus niger, and Bacillus subtilis. Preferably the one or more digesting enzymes are a mixture of xylanase, and cellulases derived from Trichoderma viride, Aspergillus oryzae, Aspergillus Niger, and Bacillus subtilis.

Please replace the third full paragraph, starting at line 23 of page 9 and continuing through line 11 of page 10, with the following amended paragraph:

The method of converting cattle feed to microbial protein in cattle of the present invention is also characterized by incorporating a sufficient amount of a mixture of one or more species of ~~laetobacillus~~ Lactobacillus bacteria and one or more types of digesting enzymes into cattle feed to form at least a sufficient amount of microbial protein to be at least equivalent to one ~~four~~ fourth pound (0.11 kg) of animal protein fed to each of the cattle per day. The ~~laetobacillus~~ Lactobacillus bacteria are preferably selected from the group consisting of ~~Laetobacillus Acidophilus~~ Lactobacillus acidophilus, ~~Laetobacillus Plantarum~~ Lactobacillus plantarum, and ~~Laetobacillus Brevis~~ Lactobacillus brevis, and mixtures thereof and the amount of microbial protein formed is at least equivalent to one half pound (0.23 kg) of animal protein fed to each of the cattle per day. The ~~laetobacillus~~ Lactobacillus bacteria are preferably a mixture of ~~Laetobacillus Acidophilus~~ Lactobacillus acidophilus, ~~Laetobacillus Plantarum~~ Lactobacillus plantarum, and ~~Laetobacillus Brevis~~ Lactobacillus brevis. The one or more digesting enzymes are preferably selected from the group consisting of xylanase, and cellulases derived from ~~Trichoderma viride~~ Trichoderma viride, ~~Aspergillus oryzae~~ Aspergillus oryzae, ~~Aspergillus niger~~ Aspergillus niger, and ~~Bacillus subtilis~~ Bacillus subtilis. One or more digesting enzymes are preferably a mixture of xylanase, and cellulases derived from ~~Trichoderma viride~~ Trichoderma viride, ~~Aspergillus oryzae~~ Aspergillus oryzae, ~~Aspergillus niger~~ Aspergillus niger, and ~~Bacillus subtilis~~ Bacillus subtilis.

Please replace the third full paragraph, starting at line 11 of page 11 and continuing through line 17 of page 11, with the following amended paragraph:

Ruminant Formula 40 AF contains a mixture of ~~Laetobacillus Acidophilus~~ Lactobacillus acidophilus, ~~Laetobacillus Plantarum~~ Lactobacillus plantarum, and ~~Laetobacillus Brevis~~ Lactobacillus brevis. These are live, concentrated bacteria suspended in a mixed sugar base. The bacteria are in a weight % ratio of ~~Laetobacillus Acidophilus~~ Lactobacillus acidophilus 60%, ~~Laetobacillus Plantarum~~ Lactobacillus plantarum 20%, and ~~Laetobacillus Brevis~~ Lactobacillus brevis 20%. The final concentration with the sugar base is blended to 80 billion cfu/gram with a guarantee of 40 billion cfu/gram. The bacteria were prepared according to the procedure of U.S. Pat. No. 4,226,940 Storrs (1980).

Please replace the paragraph starting at line 18 of page 11 with the following amended paragraph:

M8C enzymes are a dried fermentation extract of ~~Bacillus subtilis~~ Bacillus subtilis, ~~Aspergillus oryzae~~ Aspergillus oryzae, ~~Trichoderma viride~~ Trichoderma viride and ~~Aspergillus niger~~ Aspergillus niger. M8C enzymes are a 50/50 mixture by weight of EX 28000 enzymes and Multicel 185 enzymes.

Please replace paragraph the paragraph starting at line 10 of page 12 with the following amended paragraph:

EX 28000 enzymes product is a water dispersible blend of the extracts of ~~Bacillus subtilis~~ Bacillus subtilis and ~~Aspergillus oryzae~~ Aspergillus oryzae. The product includes high concentrations of alpha-amylase, beta-glucanase (gumase), and hemi-cellulase. The product has an Amylolytic Activity of 28,000 BAU/gram, a Betaglucanase Activity of 12,000 Betaglucanase units/gram and a Hemicellulase Activity of 900 Hemicellulase units/gram, Although a primary enzyme associated with ~~Bacillus subtilis~~ Bacillus subtilis exact is amylase, other useful hydrolases are often included in this product. These other enzymes catalyze the breakdown of complex carbohydrates other than starch. Hemicellulase activity attacks plant wall components. Beta-glucanase helps break down beta-linked glucose polymers often associated with grains, such as barley, oats, and wheat, and other products, including soy bean meal and locust bean gum. This additional digestive action is broadly classified as gumase activity. The presence of soluble calcium has a stabilizing effect on most enzymes of this type.